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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/549,753 | 09/21/2005 | Sumie Suda | 278290US0XPCT | 1304 |
| 22850 | 7590 | 02/20/2009 | | |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | |
| EXAMINER | | | | |
| FOGARTY, CAITLIN ANNE | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1793 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 02/20/2009 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/549,753

Applicant(s)

SUDA ET AL.

Examiner

CAITLIN FOGARTY

Art Unit

1793

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date 10/15/2008
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. Claims 1 – 6 are pending where claim 1 has been amended.

Status of Previous Rejections

2. The 35 U.S.C. 103(a) rejection of claims 1 – 6 as being unpatentable over Hashimura et al. (US 6,338,763 B1) is withdrawn in view of the arguments filed December 1, 2008.

The provisional rejection of claims 1 and 2 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 4 of copending Application No. 10/550,019 is withdrawn in view of the arguments filed December 1, 2008.

Information Disclosure Statement

3. The information disclosure statement (IDS) was submitted on October 15, 2008. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimura et al. (US 6,338,763 B1) in view of "Fracture Toughness Properties-Effects of Microstructure and Heat Treatment" from the *Metals Handbook Desk Edition*.

Hashimura et al. is applied to claims 1 – 6 as set forth in the 10/26/2007, 4/14/2008, and 8/29/2008 Office actions.

With respect to the amended features of claim 1, the scope of the claims was broadened by the addition of “comprising”, “consisting essentially of” and “a ratio ($\sigma_{0.2}/\sigma_B$) of 0.2% proof stress ($\sigma_{0.2}$) to tensile strength (σ_B) in the steel wire is 0.85 or lower.” Therefore, the reasoning set forth in the previous Office actions still pertains to the amended features of claim 1.

Hashimura differs from instant claim 1 because it does not specifically teach that the steel wire has a prior austenite grain size number of 11.0 or larger. However, it would have been obvious to one of ordinary skill in the art to minimize the prior austenite grain size as much as possible as evidenced by p. 5 of “Fracture Toughness Properties-Effects of Microstructure and Heat Treatment” because an increased prior austenite grain size may have a detrimental effect on resistance to fatigue cracking of the steel wire for a high-strength spring.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1 and 2 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1 – 14 of

copending Application No. 10/550,019 in view of "Fracture Toughness Properties-

Effects of Microstructure and Heat Treatment" from the *Metals Handbook Desk Edition*.

Since the instant claimed compositional ranges either overlap or are within the ranges

recited in Application No. 10/550,019, a prima facie case of obviousness exists. See

MPEP 2144.05. It would have been obvious to one of ordinary skill in the art at the time

the invention was made to select the claimed steel composition from the steel

composition recited in 10/550,019 because 10/550,019 teaches the same utility (i.e. a

steel for a spring) in the whole disclosed range. Application No. 10/550,019 does not

recite that the steel comprises tempered martensite, has a prior austenite grain size of

11.0 or larger, and has a ratio ($\sigma_{0.2}/\sigma_B$) of 0.2% proof stress ($\sigma_{0.2}$) to tensile strength

(σ_B) in the steel wire of 0.85 or lower. However, since the steel of 10/550,019 has an

overlapping composition with that of the instant claims and is made using a method

similar to that of the instant claims, one of ordinary skill in the art would have expected

the steel of 10/550,019 to have similar physical properties. Furthermore, it would have

been obvious to one of ordinary skill in the art to minimize the prior austenite grain size

as much as possible as evidenced by p. 5 of "Fracture Toughness Properties-Effects of

Microstructure and Heat Treatment" because an increased prior austenite grain size may have a detrimental effect on resistance to fatigue cracking of the steel wire for a high-strength spring.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

8. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection. The arguments are directed towards the claim 1 limitation that the steel wire has a prior austenite grain size number of 11.0 or larger. A secondary reference has been added to the 35 U.S.C. 103(a) rejection above to address this limitation.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

CF